REMARKS

Claims 23-26 are pending in the application. In the Office Action mailed December 12, 2006, claims 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT Pub. Ser. No. WO97/38810 (Notenboom et al., hereinafter "Notenboom"). Claims 23-26 are further rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,587,111 (Watanabe et al., hereinafter "Watanabe").

I. Objections to the Specification and/or Drawings

The Specification and/or Drawings are objected to because element 130 is not referenced in the specification and element 230 is not shown in Fig. 2. The Applicants thank the Examiner for pointing out this typographical error, and have amended all references in the Specification to element 230 to instead refer to element 130, thus conforming the Specification to what is shown in Fig. 2. No new matter is added by this amendment. Entry of the amendment and withdrawal of the objections is therefore respectfully requested.

II. Rejections under 35 U.S.C. 102(b)

As an initial matter, the Applicants point out that the Applicants' claims are not product by process claims. Indeed, no element of the instant claims is defined in terms of the process used to produce it. Further, while it is true that the invention of the instant application is produced by a patentable, and now patented, process, the product of the present application is in itself measurably distinct from, and hence patentable over, the products produced by other processes, including all of the products of record.

Claims 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Notenboom. The Applicants respectfully traverse the rejections. The Applicants' invention differs from the teaching of Notenboom in several important respects including, among other things, that the end product of Notenboom is a sintered conductive material with no surrounding insulating region, while the Applicants' invention (and end product) is a device having a patterned sintered conductive material at least partially surrounded by an insulating region comprising electrically isolated nanoparticles.

The Applicants' invention is a device comprised of two parts: a sintered conductive material and an at least partially surrounding electrically insulating region comprising electrically isolated nanoparticles [Specification at least at page 4, line 18 to page 5, line3, page 11, lines 5-21, and the Abstract, lines 8-11]. As discussed in the Specification, this structure provides an advantage, because the combined regions that comprise the whole device form a substantially planar support surface upon which an overlying layer can be deposited. This advantage is not provided by the teaching of Notenboom.

The end product of Notenboom is a sintered conductive material without a surrounding insulating region. To the extent that the teaching of Notenboom ever comprises a conductive structure surrounded by an insulating region of electrically isolated nanoparticles, it is a transitive state that takes place before the sintering of the conductive material, with the insulating materials, if any, being removed before, or at most during, the process of sintering the conductive material [Notenboom at least at Abstract; page 4, lines 18-22; page 5, line 25 to page 6, line 9; and page 6, lines 24-25]. The insulating materials are removed, so the "insulating region" of Notenboom, if any, does not persist in the end product of Notenboom, nor does the sintered conductive material persistently coexist with an insulating region, as it does in the end product of the Applicants. Notenboom therefore fails to anticipate or make obvious the Applicants' invention, because Notenboom fails to produce an end product device having a sintered conductive material and a surrounding insulating region.

In order to clarify this element of the Applicants' invention, the Applicants have herein amended independent claim 23 to recite that the electrical device of the Applicants' invention is comprised of a conductive pattern formed from a sintered conductive material having an at least partially surrounding persistent insulating region comprising electrically isolated nanoparticles. Support for this amendment is found in the Specification at least at page 4, line 18 to page 5, line3; page 11, lines 5-21; and the Abstract, lines 8-11. No new matter is added by this amendment.

Because, as discussed above, Notenboom does not teach a device having a persistent insulating region, comprising electrically isolated nanoparticles and surrounding a sintered conductive material, Notenboom fails to anticipate or make obvious the Applicants' invention, as does all other art of record, whether taken alone or in combination. Entry of the amendments

and reconsideration and withdrawal of the rejection of independent claim 23 as being anticipated by Notenboom is therefore respectfully requested.

Because claims 24-26 depend from currently amended independent claim 23, which is in condition for allowance, claims 24-26 are also in condition for allowance. Entry of the amendments and reconsideration and withdrawal of the rejection of claims 24-26 as being anticipated by Notenboom is therefore respectfully requested.

Claims 23-26 are further rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe. The Applicants respectfully traverse the rejections. As discussed above with respect to the teaching of Notenboom, the Applicants' invention also differs from the teaching of Watanabe in several important respects including, among other things, that the end product of Watanabe is a sintered conductive film with no surrounding insulating region, while the Applicants' invention (and end product) is a device having a patterned sintered conductive material at least partially surrounded by an insulating region comprising electrically isolated nanoparticles. As discussed above, this structure provides the advantage that the combined regions that comprise the whole device form a substantially planar support surface upon which an overlying layer can be deposited. This advantage is also not provided by the teaching of Watanabe.

The end product of Watanabe is a sintered conductive film without a surrounding insulating region. As with the teaching of Notenboom, to the extent that the teaching of Watanabe ever comprises a conductive structure surrounded by an insulating region of electrically isolated nanoparticles, it is a transitive state that takes place before the sintering of the conductive material, with the insulating materials, if any, being removed before, or at most during, the process of sintering the conductive material [Watanabe at least at Abstract; col. 6, lines25-34; col. 8, lie 66 to col. 7, line 9; and col. 9, lines 60-65]. The insulating materials are removed, so the "insulating region" of Watanabe, if any, does not persist in the end product of Watanabe, nor does the sintered conductive material persistently coexist with an insulating region, as it does in the end product of the Applicants. Watanabe therefore fails to anticipate or make obvious the Applicants' invention, because Watanabe fails to produce an end product device having a sintered conductive material and a surrounding insulating region.

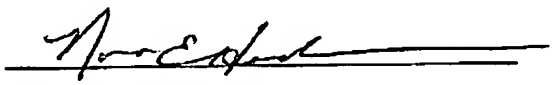
Because, as discussed above, Watanabe does not teach a device having a persistent insulating region, comprising electrically isolated nanoparticles and surrounding a sintered

conductive material, Watanabe also fails to anticipate or make obvious the Applicants' invention, as does all other art of record, whether taken alone or in combination. Because claims 24-26 depend from currently amended independent claim 23, which is in condition for allowance, claims 24-26 are also in condition for allowance. Reconsideration and withdrawal of the rejection of claims 23-26 as being anticipated by Watanabe is therefore respectfully requested.

III. Conclusion

Claims 23-26 are pending in the application. The specification has been amended to correct the references to element 230 to refer to numeral 130, as shown in Fig. 2. Claim 23 has been amended. No new matter is added by these amendments. The Applicants respectfully submit that claims 23-26 are now in condition for allowance, which action is now requested. For this reason, and in view of the foregoing arguments, the Applicants believe that this application is now in condition for allowance, which action is earnestly solicited. Should there remain any unresolved issues, it is respectfully requested that the Examiner telephone Norma E. Henderson, Applicants' Attorney, at 603-437-4400, so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,



June 12, 2007
Date

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